(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 23 June 2005 (23.06.2005)

(10) International Publication Number WO 2005/056003 A1

- (51) International Patent Classification⁷: A61K 31/397, 31/4015, 31/4025, 31/435, C07D 205/04, 207/08, 207/09, 211/22, 211/26, 401/12, 403/12, 413/12, A61P 3/10
- (21) International Application Number:

PCT/EP2004/014040

- (22) International Filing Date: 9 December 2004 (09.12.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

03028211.5

- 9 December 2003 (09.12.2003)
- (71) Applicant (for all designated States except US): GRAF-FINITY PHARMACEUTICALS AG [DE/DE]; Im Neuenheimer Feld 518-519, 69120 Heidelberg (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): EDWARDS, Paul, John [GB/DE]; Kleinschmidtstr. 17, 69115 Heidelberg (DE). LOPEZ-CANET, Meritxell [ES/DE]; Wundtstr. 9, App. 18, 69123 Heidelberg (DE). FEURER, Achim [DE/DE]; Erlbrunnenweg 5, 69259 Wilhelmsfeld (DE). CEREZO-GALVEZ, Silvia [ES/DE]; Fischerstrasse 29, 42287 Wuppertal (DE). MATASSA, Victor, Giulio [GB/DE]; Im Brambusch 20, 69493 Hirschberg (DE). NORDHOFF, Sonja [DE/DE]; Ruhweg 4, 69198 Schriesheim (DE). THIEMANN, Meinolf [DE/DE]: Hans-Thoma-Platz 24, 69121 Heidelberg (DE). HILL, Oliver [DE/DE]; Gartenstr. 13, 69239 Neckarsteinach (DE).

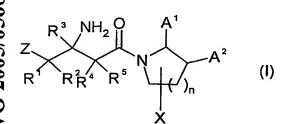
- (74) Agent: GOLDBACH, Klara; Grünecker, Kinkeldey, Stockmair & Schwanhäusser, Anwaltssozietät, Maximilianstrasse 58, 80538 München (DE).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DPP-IV INHIBITORS



(57) Abstract: The invention relates to compounds of formula (I): (I), wherein Z, R1-5, X, n, A1 and A2 have the meaning as cited in the description and the claims. Said compounds are useful as DPP-IV inhibitors. The invention also relates to the preparation of such compounds as well as the production and thereof as medicament.